REMARKS

This amendment is responsive to the Office Action of April 13, 2004. Claims 1-36 were presented for examination and were rejected In this response, claims 1, 12, 13, 14, 18, 26, 27, 32 and 34 have been amended, new claim 37 has been added, and claims 3 – 5, 16, 17 and 31 have been canceled. Thus, claims 1-2, 6-15, 18-30 and 32-37 are pending. Applicant submits that no new matter has been added by this Amendment and that support for the claims, as amended, may be found throughout the specification and drawings.

I. 35 U.S.C. §102

A. Claim Rejections Using Grace

Claims 1, 2, 6, 10 – 11, 13 – 15, 19, 23 – 24, 26, and 34 – 36 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,748,098 to *Grace*. For at least the following reasons, Applicant respectfully traverses.

Independent claims 1, 13, 14, 26 and 34 have been amended to more clearly articulate certain aspects of the invention. Particularly, claim 1 has been amended to include the limitations of now canceled claims 3 – 5 and claims 13, 14, 26 and 34 have been amended in a similar fashion. As such, claims 1, 13, 14 and 34 relate to a method or system for visualizing a network that includes a plurality of nodes, wherein the system operates to collect information from the nodes, including forwarding tables, and to reconstruct operation of the network, including creating forwarding tables, from the collected information. Claim 26 relates to a computer readable memory device that stores instructions, including instructions for comparing forwarding tables obtained from the nodes with forwarding tables created from information collected from the nodes. As explained below, *Grace* does not disclose these limitations and therefore does not anticipate the claims as amended.

Grace discloses a network event correlation management system that allows a user to determine whether or not the occurrence of simultaneous events are due to the events being related or just coincidental. By determining if the events are coincidental, the user can better manage

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available resources relative to maintenance and repair. The system monitors and stores event information that occurs over a predetermined reference period. To determine whether the simultaneous occurrence of two or more events is coincidental, the system analyzes these events in view of the stored historical data obtained during the predetermined reference period (see column 2, lines 51 – 65; column 3, lines 1 – 67 and column 4, lines 1 – 57). Accordingly, the teachings in *Grace* are in a direction that is quite different from direction of the subject matter of Applicant's claims. *Grace* simply does not disclose a system or method for visualizing a network that includes a plurality of nodes wherein the system collects information from the nodes, including forwarding tables, and reconstructs the network operation from the collected information wherein the reconstruction includes creating forwarding tables. Claims 13, 14 and 34 have been amended to include limitations of a generally similar nature, which are also not disclosed by *Grace*. With respect to independent claim 26, the computer readable memory device stores instructions, including instructions for comparing forwarding tables obtained from the nodes with forwarding tables created from information collected from the nodes. These limitations are also not disclosed by Grace. For at least these reasons, the 35 U.S.C. § 102(b) rejection of claims 1, 13, 14, 26 and 34 as being anticipated by *Grace* should be withdrawn and these claims and their dependent claims allowed over this reference.

Further, Applicant submits that notwithstanding the foregoing reasons for patentability with respect to the independent claims, the dependent claims are independently patentable. For example, claim 6 describes an embodiment of a method for visualizing a network that includes a plurality of nodes that includes steps for combining information from at least two of the nodes, sorting the combined information by time, and reconstructing the network operation using the sorted information. However, this subject matter is not taught in *Grace*.

By contrast, *Grace* discloses a network management system that stores historical data concerning the time at which alarm conditions occur in the network during a reference period. The system correlates identified alarm conditions by analyzing the historical data to determine the statistical probabilities of pairs of the identified alarmed conditions that most likely occurred by chance within the same temporal window. These statistical probabilities are presented at the display

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in tabular form to an operator of the network management system. (See column 2, lines 60 – 67; column 3, lines 1 – 4; Figures 5A – 5B.) Applicant submits that *Grace* does not disclose the limitations of the embodiment of claim 6 wherein information collected from the network is combined, sorted by time and used to reconstruct network operation. *Grace* does not provide any disclosure for reconstructing network operation. Grace merely manipulates stored information to determine whether alarm events that occur within the network are related or coincidental. Accordingly, Applicant respectfully requests that this rejection be withdrawn and the claim allowed.

B. Rejections Using Messinger et al.

Claims 1, 2, 6 – 11, 13 – 15, 19, 20 – 24, 26, 27 – 30, 32 and 34 – 36 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,687,750 B1 to *Messinger et al.* Applicant respectfully traverses.

Applicant has amended independent claims 1, 13, 14, 26, 27, 32 and 34 as noted above. As explained below, *Messinger et al.* does not disclose all the limitations of the various embodiments of a method or system for visualizing a network that includes a plurality of nodes as presented in the amended claims.

Claims 1, 13, 14 and 34 explicitly recite a method or system for visualizing a network that includes a plurality of nodes and wherein the network collects information, including forwarding tables, from the nodes, and reconstructs the network operation, including creating forwarding tables, from the collected information. Claim 26 recites a computer readable memory device for use with the claimed method or system.

By contrast, *Messinger* discloses a network traffic visualization system that allows for the network topology and activity to be monitored and stored over a period of time. The stored information may be retrieved at a later time and dynamically reviewed on a graphical user interface. *Messinger* does not disclose a method and system for visualizing a network having a plurality of nodes wherein information, including forwarding tables, is collected from the nodes; network operation is reconstructed from the collected information wherein reconstruction includes creating

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forwarding tables; forwarding tables obtained from the nodes are compared to the forwarding tables created from the collected information; and routing protocol convergence time is measured based on the comparison as required by claim 1. Claims 13, 14 and 34 have been amended to include generally similar limitations, which are also not disclosed by *Messinger et al.*. The computer readable memory device of claim 26 includes limitations that are not disclosed by *Messinger et al.*. For at least these reasons, the 35 U.S.C. § 102(e) rejection of independent claims 1, 13, 14, 26 and 34 as being anticipated by *Messinger et al.* should be withdrawn and these claims and their dependent claims allowed over this reference.

Claim 27 has been amended to include the limitation of now canceled claim 31. Applicant submits that *Messinger* does not disclose a computer readable memory device of a node in a network containing a network operations data structure as recited in claim 27. Particularly, claim 27 defines a memory device having a first area that stores information regarding node status changes, a second area that stores information regarding messages received and transmitted, a third area that stores information regarding link status changes in the network, and a fourth area that stores a forwarding table for the node.

By contrast, *Messinger* discloses a system containing a network visualization application that enables a user to visualize network traffic. The system includes three network information files stored in one or more locations on the network. However, *Messinger* does not disclose a fourth area for storing information. Nor does *Messinger* explicitly describe the type of information stored in its network information files. Thus, *Messinger* does not disclose all the limitations of claim 27. Accordingly, Applicant respectfully requests that this rejection be withdrawn and the claim allowed.

Claim 32 has been amended to present an embodiment of an interactive graphical user interface for visualizing a network having a plurality of nodes wherein the graphical user interface includes replay controls that include a reset control.

Messinger et al. discloses a visualization application, which enables a user to collect and store information concerning various aspects of network traffic and/or activity. The stored

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information may be retrieved by the user for display at stated times or at the request of the user. (See column 1, lines 56 – 67; column 2, lines 1 – 18.) *Messinger et al.* does not disclose replay controls. *Messinger et al.* does not disclose an interactive graphical user interface that has replay controls, including a reset control as according to the embodiment of claim 32. As such, claim 32 is patentable over the prior art of record. Accordingly, Applicant respectfully requests that this rejection be withdrawn and the claim allowed.

C. Rejections Using Macfarlane et al.

Claims 27 – 30 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,516,348 B1 to *MacFarlane et al.* Applicant respectfully traverses.

Claim 27 has been amended to include the limitation of now canceled claim 31. Specifically, claim 27 defines an embodiment of a computer readable memory device of a node and a network containing a network operations data structure. The memory device includes four areas for storing a specific type of network information, as discussed above.

MacFarlane discloses a method of collecting and predicting capacity information for a composite network formed by bundling network resources into a single group, e.g., a group of five network printers. The composite network's activity is monitored over time and activity information is collected and stored. The information is put into graphs which provide the user with network capacity information. (See column 3, lines 34 – 44.)

Although *MacFarlane* discloses the collecting and storing of information relative to network capacity and usage, the reference does not disclose the specific types of information that are being stored according to the embodiment of claim 27. Accordingly, *MacFarlane* does not disclose all the limitations of the claim 27, and as such, Applicant respectfully requests that this rejection be withdrawn and the claim allowed.

II. 35 U.S.C. §103

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A.   Rejections Using Grace and Feldmann

Claims 3-5 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,748, 098 to *Grace* in view of U.S. Patent Application 2002/0021675 to *Feldmann*. For at least the following reasons, Applicant respectfully traverses.

Claims 3 – 5, 16 and 17 have been canceled. Claim 18 remains pending as depending from now amended claim 14, which includes the limitations of canceled claims 16 and 17. Particularly, claim 18 presents an embodiment of a system for visualizing a network that includes a plurality of nodes and wherein the system includes a processor that operates to execute instructions in a memory to collect information from the nodes and, amongst other things, to obtain forwarding tables from the nodes, to create forwarding tables from the collected information and, to compare the forwarding tables to measure routing protocol convergence time.

Feldmann fails to cure the deficiencies of *Grace*, at least with regard to comparing forwarding tables obtained from the nodes with created forwarding tables and, measuring routing protocol convergence time based on the convergence as according to the embodiment of claim 18. *Feldmann* teaches collecting router configuration files and using the information to populate a data model. (See Abstract.) Neither *Grace* nor *Feldmann*, taken alone or in any reasonable combination, teaches or suggests measuring routing protocol convergence time based on a comparison between the forwarding tables obtained from the nodes and the created forwarding tables as according to claim 18. Accordingly, allowance of claim 18 is respectfully requested.

B. Rejections Using Messinger et al. in view of Feldmann

Claims 3-5 and 16-18 are rejected under U.S.C. 103(a) as being unpatentable over U.S. · Patent No. 6,687,750 B1 to *Messinger et al.* in view of U.S. Patent Application 2002/0021675 to *Feldmann.* Applicant respectfully traverses.

As set forth above, claims 3 – 5, 16 and 17 have been canceled. Applicant submits that *Feldmann* fails to cure the deficiencies of *Messinger*, at least with regard to teaching or suggesting

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the limitations of claim 18 with regard to providing a process operative to compare forwarding tables obtained from the nodes with created forwarding tables and, to measure routing protocol convergence time based on the comparison. Further, neither *Messinger* nor *Feldmann*, whether taken alone or in any reasonable combination, teaches or suggests creating forwarding tables from collected information as according to claim 18. Rather, *Feldmann* discloses collecting <u>router configuration files</u>. (See page 1, paragraph 10.) Accordingly, for at least this reason, claim 18 is in condition for allowance and Applicant respectfully requests that this rejection be withdrawn.

C. Rejections Using Grace in view of Lane

Claims 12, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,748,098 to *Grace* in view of U.S. Patent 5,437,009 to *Lane*. Applicant respectfully traverses.

Claims 12 and 25 have been amended to more clearly articulate certain aspects of the invention. Particularly, claims 12 and 25 now describe a method or system for visualizing a network having a plurality of nodes and wherein the system allows the operator to at least one of fast forward, <u>reset</u> and rewind the replaying of the network operation. (See page 10, lines 4 – 5 for support.) Applicant submits that limitation of a reset control is not taught or suggested by either of the cited references. Accordingly, Applicant respectfully requests that this rejection be withdrawn and the claims allowed.

D. Rejections Using Messinger et al.

Claims 12, 25 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,687,750 B1 to *Messinger et al*. Applicant respectfully traverses.

In response to the present rejection, Applicant has amended claims 12, 25 and 33. Neither *Messinger et al.* nor *Lane*, either standing alone or in combination, teaches or suggest a method and system for visualizing a network having a plurality of nodes wherein the system includes a plurality of replay controls, including a reset control. (See page 10, lines 4 – 5.) As such,

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Applicant submits that the claims, as amended, include patentable subject matter. Therefore, Applicant respectfully requests that the rejection be withdrawn and the claims allowed.

CONCLUSION

In view of the above, each of the presently pending claims in this application is respectfully submitted to be in condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

The fees due with respect to the present application are identified in the accompanying transmittal. However, if additional fees are due, please charge our Deposit Account 07-2347, under Order No. 99-445 from which the undersigned is authorized to draw. To the extent necessary, a petition for extension of time under 37 C.F.R. § 1.136 is hereby made, the fee for which should be charged to the aforementioned account.

Dated: September 13, 2004   Respectfully submitted,

By _____

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